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ABSTRACT

The paper examines the methodological issues involved in the relationship of adult education to adult development. The practice of adult education during the past 25 years has been built upon a series of assumptions derived from theoretical fragments regarding lifelong development. Considering the theoretical base of adult development, however, very little has been verified and set within a sound, comprehensive framework of the total life-span. Any comprehensive theory of adult development must take into consideration not only the psychological and social factors of human life, but also the physiological, economic, vocational, religious, and political factors which affect contemporary life. Of the three traditional research methodologies, the cross-sectional, the cross-sequential, and the longitudinal designs, the longitudinal has proven the most effective technique for studying developmental change. Within the latter methodology, the technique of biography has proven effective because it provides primary data across gererations and even epochs. Whichever research design is selected for the study of life-span development, the researcher must effectively manipulate the factors of change and sameness which define the developing individual. In order to do so it is necessary to learn more about the developmental stages through which the individual proceeds. (JR)

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A STEP BACKWARD IN RESEARCH

A paper presented to the
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by

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A STEP BACKWARD IN RESEARCH

In attempting to deal with the topic of backward movement in any ongoing, enthusiastic endeavor one owes an explanation -- an apology, in the classical sense if not in the defensive sense. Let it be understood that the most obvious meaning, the literal meaning, of this paper's title is not intended. It is not my intention to set research back, and it is my sincere hope that I will not do so. What I do hope to accomplish, or to encourage those in the profession to accomplish is suggested by two metaphorical interpretations of backward movement.

The first interpretation is analagous to the insight man gained through the vision of Copernicus. Copernicus achieved sufficient conceptual distance from the earth that he enabled man to see his world in relation to the rest of the universe. That conceptual revolution has not yet climaxed; we continue to discover microscopic and macrocosmic variations of the same motif realized by Copernicus. It is time for such distancing in the field of adult education. Child educators have long built their theories on a foundation of child development; the lack of definition in adult development has made that virtually impossible for the adult educator in the past.[1] It is time, however, that we reconsider the issue, or at least reacknowledge the limited perspective within which we function. It is essential that we consider the education of adults within the

perspective of their total life-space and life-time. Without that perspective adult education could find itself, for theoretically it has the potential, as a negative factor in the individual's total development.

The second interpretation of the metaphor "a step backward" involves a ubiquitous truism -- that sometimes we have to go back before we can go forward. Through the person of Jerry in The Zoo Story (Edward Albee) strikes a variation on the theme: "sometimes it's necessary to go a long distance out of the way in order to come back a short distance."[2] Detours, spinning wheels on the ice -- these are easily recognized as necessary interruptions which must be accommodated. We must take the time to back off if we are to more effectively reach our destination. The same is now true for adult education. Androgogy has been built on a set of assumptions[3] -- because the developmental groundwork was not firmly established and practice had to go on. Leaders in adult education have recognized the logical falacy but have also recognized that it was necessary to proceed. The trip across Canada was long and arduous before the trans-Canada highway, but if you had to travel between Montreal and Vancouver you had to take the best roads available. The time has come, however, when the expressway is opening up. If we hope to cross the country by the most efficient -- if not necessarily the most luxuriant -- route possible, we must give up past habits and adapt to emerging resources. So, too, in adult education. We have been traveling the back roads -- getting there through trial and error, and occasionally getting lost. In the meantime the

developmentalists have been working on the underlying problem, and over the past fifteen years have made significant progress. It is time that we move back, take account of those changes, and replan our strategies based on new data.

There is an urgent need to more clearly define the relationship between adult education and the realities of adult development. It will be the intention of this report to look at the issues involved in the relationship of adult education to adult development -- or education as it relates to the life of the whole adult individual. The oral presentation will focus on the content of research findings; it will attempt to present a synthesis of the theory and research on adult development and to place adult education within that perspective.

The written report will stress the methodological issue -- for it is the methodological problem which has hindered the progress of research in life-span development. It is an issue which has serious implications for the field of adult education as well, since the same variables of time and change (individual and social) confound attempts at generalization.

The practice of adult education, during the past twenty-five years, has been built upon a series of assumptions derived from theoretical fragments regarding life-long development. Some of those assumptions are:

- the adult learner brings life-expereince into the classroom -- and this experience must be tapped as part of the educational process. (observation from practice)

- the adult experiences school as a portion of his total life space -- shared with home, job,

shifting relationships with growing children and aging parents. (observations from practice)

- school serves as a "social" manifestation of the learning process -- as important an aspect of education as books and teachers. (Lewin)

- middle and later adulthood is as appropriate, perhaps a more appropriate juncture for formal education within the lifetime of the individual than the adolescent years. (Maslow)

As assumptions these premises seem to be operationally valid.[4]

When the theoretical base of adult development is considered, it becomes apparent that very little has been verified and set within a sound, comprehensive framework of the total life-span. As a foundation for adult education these assumptions are inadequate to bear the stress of the institution. It is time to "step back" and consider the principles of development. J. R. Kidd specifies the need for further inquiry into human development over the life span and its relationships to the education of adults.[5]

Life-span psychology has been defined by Baltes and Goulet.

> Human life span psychology is concerned with the description and explication of ontogenetic (age-related) behavioral changes from birth to death.[6]

Life-span development has as a discipline proven problematic. Missing is a comprehensive developmental model which would serve as a synthesis and as a test for more specific theories and experiments.

Theorists have constructed models of development through adolescence which explain the emergence of a total, integrated

personality. With the growing maturity of the concepts of childhood, those theorists have begun to project their models into the adult years. The continuing development of the personality has proven more elusive to the theorists. As the individual becomes more differentiated, more an individual in his own "wright," development appears more idiosyncratic. Chronological age becomes less reliable as an indicator of the developing individual (Birren, 1960; Bijou, 1968; Baer, 1970; Baltes and Goulet, 1971). Only a handful of psychologists and sociologists have attempted a description of the total life span.

Erik Erikson hypothesizes eight stages during the life span. The latter four stages involve the post-adolescent individual. Erikson traces development through the stage of identity vs. identity confusion (stage 5), the search for relationships of intimacy vs. isolation (stage 6), generativity vs. stagnation (stage 7) and the stage of personal integrity vs. despair (stage 8).[7]

Jean Piaget projects his childhood model into the adult years. He states that, given normal development, the individual at the age of adolescence (16-18 years) will have achieved a balance of cognitive/psycho-social integration marked by the ongoing process of accommodation and assimilation.[8] After that time the individual is qualitatively complete. This does not imply that the individual ceases to change. On the contrary, each person proceeds through a lifetime of decision making and adaptation to changing external circumstances which will become more complex as the quantitative variables increase. His

response to those circumstances will result from cognitive structures which, while common to all individuals, will differ according to the individual's unique identity.

Other psychologists provide important but less comprehensive perspective to the understanding of continuing human development. Abraham Maslow deals with the concept of self actualization, hypothesizing that the individual proceeds through a series of heirarchical stages.[9] Carl Rogers builds a methodology of counseling and education based upon that concept of the self-actualizing individual.[10]

Another group of developmentalists are concerned with the external forces, including the cohort values and social norms which impinge upon the individual and mold his development.

Bernice Neugarten suggests that social norms and the individual's sense of being "on time" may represent a significant variable in development.[11] Helen Perlman hypothesizes that the individual passes through a series of roles and that the transitions between roles define the emerging personality.[12] Robert Havighurst also deals with this sociological model in terms of "developmental tasks" accomplished in "moments of crisis."[13] Robert Butler cites the concept that "rites of passage" traditionally provided the visible manifestation of the transition from one role to another. He suggests that the actual role changes may no longer occur simultaneous with the ritual event intended to symbolize them.[14]

Each of these sociological theories deals with the imposition of external forces upon the individual -- forces which "shape"

that individual's continuing personality development. A theory of adult development if it is to be comprehensive, must take into consideration both the psychological and the social factors of human life, but it also must consider the physiological, economic, vocational, religious, and political factors which affect contemporary life. Simone de Beauvoir states in her introduction to Coming of Age her intention to "describe the way in which the aged man inwardly apprehends his relationship with his body, with time and with the outside world."[15]

Empirical work in the stages of adulthood has been more successful then attempts to speculate on comprehensive theories (Havighurst, 1973). Research has not, however, been without its problematic elements. Because there is no comprehenisve theory from which to work, research hypotheses have often derived inductively from the research (Lowenthal, 1974). Vernon Bengston (1973) suggests four possible factors which affect change in the developmental process:

a. maturational effects
b. developmental events
c. cohort effects
d. historical events

Of these, maturational effects imply a constant -- identifiable within all individuals. Developmental events involve the sequence of internal, individual responses to critical situations. The third and fourth factors are beyond the control of the individual: cohort effects are determined behavioral responses resulting from ubiquitous cultural assumptions; historical events serve as the uncontrolled-for stimuli upon which the individual must act.

Research has of necessity focused upon the individual's perceptions of those events which shape his development -- on the developmental events. Studies have been and continue to be descriptive, and depend upon approaches utilizing the natural environment (Neugarten, 1973). From the data collected, developmentalists attempt to identify those elements which constitute the independent variable -- maturational effects.

The ideal method of measurement, according to K. Warner Schaie, would be to study a sample population through a total developmental model. He projects the time required for such a research program. Given that the life span is bounded by approximately a one hundred year limit -- it becomes necessary to multiply by 2 to arrive at the projected time of measurement. That is the time required to measure two distinct cohorts (see table 1).[16]

TABLE 1

AGES OF 20 YEAR COHORTS AT 20-YEAR INTERVALS
FOR COHORTS AVAILABLE TO AN INVESTIGATOR IN 1960

Time of birth	AGE										
1860	0	20	40	60	80	100	--	--	--	--	--
1880	--	0	20	40	60	80	100	--	--	--	--
1900	--	--	0	20	40	60	80	100	--	--	--
1920	--	--	--	0	20	40	60	80	100	--	--
1940	--	--	--	--	0	20	40	60	80	100	--
1960	--	--	--	--	--	0	20	40	60	80	100
Time of measurement	1860	1880	1900	1920	1940	1960	1980	2000	2020	2040	2060

Until such an ambitious research prcject should be attempted the more traditional methodological designs must suffice. These must, however, be treated cautiously and with careful acknowledgment of their limitations.

The three traditional research methodologies have been graphically represented by Schaie (see table 2).[17]

TABLE 2

AGES OF COHORTS MEASURED AT FIVE AGES WITH ANNUAL MEASUREMENT INTERVALS

Time of birth	Ages								
1951	9	-	-	-	-	-	-	-	-
1952	8	9	-	-	-	-	-	-	-
1953	7	8	9	-	-	-	-	-	-
1954	6	7	8	9	-	-	-	-	-
1955	5	6	7	8	9	-	-	-	-
1956	-	5	6	7	8	9	-	-	-
1957	-	-	5	6	7	8	9	-	-
1958	-	-	-	5	6	7	8	9	-
1959	-	-	-	-	5	6	7	8	9
Time of measurement	1960	1961	1962	1963	1964	1965	1966	1967	1968

The first metholology, the cross sectional design, is employed in studies of adult development only in situations which necessitate expediency; this method is represented by the vertical line grouping. Its validity is severly limited because of its inability to distinguish the variables of age differences and cohort differences. Because the nature of the method dictates that it measure one point in time, it cannot measure individuals changing over time.

Since development is defined by change, this methodology is almost totally inadequate for the study of development and for education as well.

The cross-sequential design, advocated by Schaie for the study of development, compensates for the weaknesses of the cross sectional methodology. Represented by the diagonal grouping in Table 2, this technique takes the cross sectional method and repeats treatment during periodic intervals in order to measure the changes which occur over time. Referred to as the "time lag methodology," it appears to be a reasonable compromise between the theoretical weakness of the cross sectional methodology and the logistical difficulties of the longitudinal design.

The longitudinal methodology appears to have the greatest validity in the study of developmental change since it takes one cohort and traces change through time. This technique is represented by the horizontal grouping in Table 2. The theoretical problem with this method results from the fact that it can provide information on only one cohort -- a series of studies must be replicated in order to account for differing cohorts. Practical limitations of this method result from the complicated logistics required by the longitudinal design -- continuity of administration, attrition in the sample groups. Efforts are time consuming and expensive.

Despite these practical problems, the longitudinal method has proven, theoretically, the most effective technique for studying developmental change. The Kansas City Studies, the Duke University Studies, the National Institute of Health Studies, the

Oakland Growth Study and the Oakland Guidance Study have traced cohorts through nearly an entire generation. Other researchers continue to follow up on the original subjects from these projects, some of which date back to the 1920's (Mass and Kuypers, 1974).

One longitudinal methodology which has proven effective in the study of the life-span has been the biographical methodology.

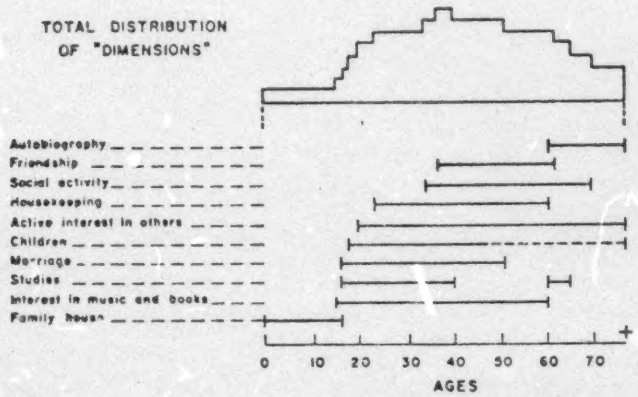
A biography, according to Thrall and Hibbard's Handbook to Literature, "must be a history; one which paints not only one aspect of a man but all important aspects."[18] The biography, and especially the autobiography, can provide an integrated picture of an individual's life and an immense raw data base for the developmental researcher. This is particularly true at the present time when interest is strong in the genre as a popular literary form. New biographies appears off the presses monthly, many of them comprehensive and analytical documents reflecting the social and cultural conditions which affect the individual's development.

Use of the biography as a source of developmental data is not a new idea, however. Charlotte Bühler and Else Frankel-Brunswik utilized this technique in their pioneering research on adult development during the 1930's. By studying living persons and primary materials about prominent deceased individuals the researchers compared external events, the individual's reactions to those events, and the individual's accomplishments and productions during a lifetime. In doing so they identified biological and biographical curves running concurrently through the life of the individual. One such life curve is represented by Figure 1.

FIGURE 1

SAMPLE OF BIOLOGICAL AND BIOGRAPHICAL CURVES

AS DESCRIBED BY ELSE FRANKEL-BRUNSWIK [19]



Abraham Maslow in Motivation and Personality (1954) uses the case study and biographical methodology in the study of personality. Erik Erikson also has used the technique extensively in his work on development. His theory of the latter four stages in adult development emerges largely from his biographical study of the lives of Luther and Ghandi. He specifically deals with the theoretical implications of this method in Life History and the Historical Moment (1975).

The biographical methodology proves effective because it provides primary data across generations and even epochs. That data, however, must be subjected to careful content analysis. It must also be synthesized in order to arrive at the general principles which are the goal of the research effort. Work at refining a biographical methodology for use in educational research is currently being done at the University of Rochester by William Pinar, a curriculum conceptualist. He is seeking a

method of self analysis which will support the articulation of the individual's perceptions of his educational development.

The technique has also been used by Frederick Gardner at The Rochester Institude of Technology. In order to consider the history of higher education, he has undertaken the biographical study of individual institutions through their written histories.

Much subjectivity and sentiment must be culled, but the technique offers a rich source of raw developmental data over extensive time periods, whether in the case of inidvidual lives, educational experience, or the development of an institution. The biographical method requires a considerable amount of time and patience. With careful systematization of the process, however, it can access reliable data for the study of human development. Nor will that data be restricted by logistical limitations on the researcher. With a degree of objectivity and perspective the researcher can analyze the developmental events in the lives of the Greeks and Romans as well as contemporaries from across cultures.

The biographical methodology offers a promising resource for research efforts in human development. Because of the relationship of education to the total development of the individual, researchers interested in education across the total life-span could find significant benefit in considering the adoption of the technique in the appropriate context.

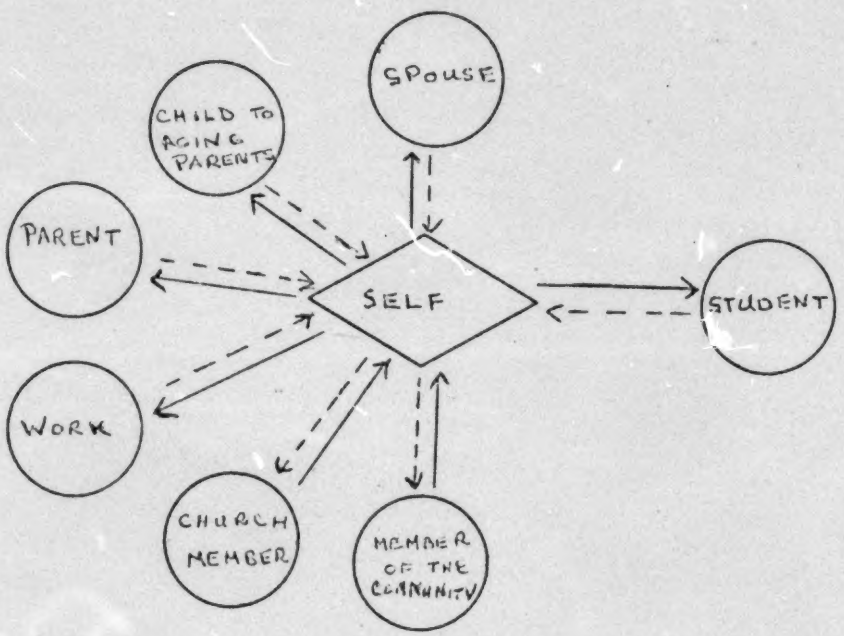
Whichever research design is selected for the study of life-span development; a cross sectional, a cross sequential, or a longitudinal design, the researcher must effectively manipulate

the factors of change and sameness which define the developing individual (Hahn and Day, 1974).[20]

Educational research must consider education as it fits into the total context of the individual's life-time. In order to do so it is necessary to learn more about the developmental stages through which the individual proceeds. A formal education serves as one additional variable which will affect the continuing development of the individual (see Figure 2).

FIGURE 2

ROLE DEMANDS DURING EARLY ADULTHOOD



That effect may be positive or negative, it may be minor or major. An education which spans the adult years can help the individual to:

- find satisfaction in the competent performance of his vocational choice and in continuing vocational development.
- function thoughtfully and effectively in his professional and in his personal life.
- develop an integrated existence between the professional, social, and personal aspects of his life.
- understand himself and others as actors in the world.

On the other hand, the individual (especially the adult who already has work, a family, and civic responsibilities) may find the educational experience an additional burden upon his otherwise complex life. The degree to which these alternative responses occur will be affected by the combined intensity of all of the variables interacting on the individual.

It is important that all research in adult education be conscious of the relative role of education within the total life. Allen Tough, in this regard, advocates the interaction of "human potential" and "adult education."[21] If the awareness of the perspective of education within the total life of the individual is lost, then efforts at enriching the lives of men through education will not be actualized. This does not and cannot mean that research should abandon the educational questions until the key to adult development is magically uncovered. But it does mean that all research should be perceived as it fits into the total effort at understanding man. For the educator the particular focus is if, when, and how man learns throughout his life.

We must stand back then, sufficiently far from our daily efforts, so that we can consider the place of education in the

lives of the individuals we serve. Also, because efforts at research in life-span development have begun to make headway, adult educators can benefit from stopping for a time, taking account, and considering their efforts based upon the findings of the developmentalists over the last fifteen years.

Thus, here are two ways in which we might consider moving backward: steps which will enable us to more readily move ahead.

FOOTNOTES

1. Robert Havighurst, "History of Developmental Psychology: Socialization and Personality Development through the Life Span," in Life-Span Developmental Psychology, ed., Paul Baltes and K. Werner (New York: Academic Press, 1973).

2. Edward Albee, Two Plays by Edward Albee (New York, Signet, 1959), p. 30.

3. Malcolm Knowles, The Modern Practice of Adult Education, (New York: Association Press, 1970), p. 39.

4. Malcolm Knowles, ibid.

5. J.R. Kidd, How Adults Learn (New York: Association Press, 1973).

6. P.B. Baltes and L.R. Goulet, Life-Span Developmental Psychology, Theory and Research, (New York: Academic Press, 1970), p. 12.

7. Erik Erikson, Identity, Youth and Crisis (New York: Norton, 1968).

8. Jean Piaget, Genetic Epistemology, New York: 1951.

9. Abraham Maslow, Toward a Psychology of Being (Princeton: D. Van Norstrand, Co., 1968).

10. Carl Rogers, On Becoming a Person, A Therapist's View of Psychotherapy, (Boston: Houghton Mifflen, 1961).

11. Bernice Neugarten, "Continuities and Discontinuities in Psychological Issues in Adult Life," in Readings in Psychological Development Through Life, ed., Don C. Charles and William R. Looft, (New York: Holt, Rinehart, and Winston, Inc., 1973), pp. 348-355.

12. Helen Perlman, Persona: Social Role and Personality (Chicago: University of Chicago Press, 1968).

13. Robert Havighurst, "Successful Aging," in Processes of Aging, vol. I (New York: Atherton Press, 1963), p. 305.

14. Robert Butler and Myrna Lewis, Aging and Mental Health, (St. Louis: C.V. Mosley Co., 1973).

15. Simone deBeauvoir, The Coming of Age, (New York: Warner Communications Co., 1970), p. xii.

16. K. Warner Schaie, "A General Model for the Study of Developmental Problems," Psychological Bulletin, vol. 64, no. 2, (1965), p. 93.

17. K. Warner Schaie, ibid., p. 94.

18. William F. Thrall, and Hibbard Addison, A Handbook to Literature, New York: Odyssey Press, 1936.

19. Else Frankel-Brunswik, "Adjustments and Reorientations in the Course of the Life Span," in Middle Age and Aging, ed., Bernice Neugarten (Chicago: University of Chicago Press, 1968), p. 79.

20. Norma Hahn and David Day, "A Longitudinal Study of Change and Sameness in Personality Development: Adolescence to Later Adulthood," International Journal of Aging and Human Development, vol. 5, no. 1, (1974), 11-39.

21. Allen Tough, "Two Movements Interacting: Human Potential and Adult Education," Adult Leadership, (March, 1972), p. 335.

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